The Times and Register.

VOL. XXX. No. 15. PHILADELPHIA, OCTOBER 12, 1895. WHOLE No. 892.

Original.

THE OPERATIVE PRINCIPLES OF MEDICAL AND BIOLOGICAL SCIENCE.

BY W. R. DUNHAM, M. D., KEENE, N. H.

It may seem uncalled for in this age of scientific culture to go back and review the subject of what may constitute the operative or active principles of medical and biological science.

So far as human authority has expressed itself, this question was settled at a period many centuries before our day.

Thus at the present time the general expectancy is that the advancement of medical science must come largely from more carefully conducted experiments rather than from a better conducted system of thought.

From an article published, from the pen of Dr. James W. Keiser, of Reading, Pa., entitled "The Right to Question Authorities, and the Value of Medical Testimony," I quote as follows: "The lesson I wish to inculcate is that we must not too blindly worship authority; that we must reserve the right to question and weigh any proposition, no matter how strongly it be intrenched by great names. Even were all authorities agreed, their opinions are not final, as we know that twenty years will work such havoc with our present knowledge and opinions that the books on our shelves to-day will be then only historical memorials of the past. All future progress and revolutions in medicine will be largely made by sacrificing our present authorities. The history of the past admirably illustrates the need of such a stand. There are startling instances in science and medicine where a mad infatuation for the sacredness of the opinions of great men has stopped the wheels of progress and perpetuated great errors."

With this precedent, persuading to the conviction that we are all equally entitled to think for ourselves, I trust you will pardon me for stepping out of the rut, and calling attention to the existing situation relative to the accepted operative principles of this department.

It will be found that Pliny, the elder, who was born A. D., 23, as history affirms, stated that Acron was the first person to apply philosophical reason to the department of medical and biological science.

It was this person, so far as can be determined from historical record, who first gave interpretation as to what kind of function constituted the operative principles of medical and biological science. Therefore, we can say with some assurance of being correct, that as early as the first century A. D. the human mind gave interpretation to what was then presumed to be the operative principles of this department.

Should you inquire what changes have been made, what ideas have been eliminated, and what new ideas have been accepted in substitute as an improvement on this early interpretation, I should be obliged to say that history fails to furnish a record that any ideal change has ever been made relative to the accepted operative principles of medical and biological science.

We will now consider what con-

*Read before the Cheshire County, N. H., Medical Society, October, 1895.

stituted those doctrines of first principles, accepted some 1700 years ago, that have been perpetuated and are now taught in the schools of our generation.

In accordance with this early interpretation, we are required to accept in the name of science that three kinds of forces, three kinds of active principles, three kinds of operative principles take part in the presentation of that phenomena presented by the living human organism.

First, we mention the active vital principle—that life agency that is alleged to construct the human organism and present the conditions of health.

The second division of active principle is alleged to exist in association with the cause of disease, and said to act and thus produce disease. Including the relations of poisons that are said to act so violently as to cause death. With this second department of active principle that has done so much injury to the human family it is not alleged in medical literature that such is a life agency, but some mysterious agency of nature which existence is recognized from the function it has seemed to fulfill.

The third department of active principle is recognized as being an agency in assocation with material medicine, called the "active medical principle," alleged to act to produce medicinal effects.

This constitutes the accepted operative plan, taught in our medical schools. As a modern idea, the question comes up—is this plan correct?

Is this nature's plan, or is it only a human invention, while nature is operating from an entirely different plan?

This accepted plan has afforded satisfaction for many centuries, and to now question its validity may seem like offering censure to the dignity of intellectual achievements.

Again, alluding to the three departments of active principles, you all know that many volumes have been written respecting the function of the "active cause of disease;" that is, in description of what this mysterious agency or active principle has done in the name of disease. Also that much has been written of the utility of the practical function of "active medical principle," while relative to the department of active vital principle so little has been written on the subject that a few quotations will reveal the degree of success achieved in this direction.

That celebrated English writer, Henry Maudsley, M. D., F. R., C. P., states in his book on "Body and Mind," essay on "Theory of Vitality," page 240, as follows:

"It is extremely unphilosophical in the present condition of knowledge to refuse to accept vitality as a special manifestation of force, and whatever its real nature may be, vital force should be received as a distinct force on the same terms as chemical force or electrical force." From the same page I also quote: "It is easy to perceive how impossible it is in the present state of science to come to any positive conclusion with regard to the nature of vital force."

On page 234, when alluding to the difficulty in comprehending the nature of the vital force agency, this writer states: "It may be that this generation and generations to come will have passed to their everlasting rest before a discovery of the secret of vital activity is made."

It is not claimed that the alleged vital force agency is an imaginary agency. But the accepted conclusion is that this problem must await the advent of future generations for a solution.

The acknowledged leaders have persuaded the medical profession and non-professional public to accept that the function of vital force is an unknowable department of nature.

And within ten weeks I have received a letter from a distinguished medical editor, who states that the human organism is "put into activity by that unknowable force we call life."

No writer has made it plain how to distinguish an activity set in motion by the vital force from an activity set in motion by the "active cause of disease." While I shall claim that

all activities presented by the living human organism are presented by the vital force agency.

Also, I shall claim that the alleged functions or operations, recognized as being presented by the "active cause of disease" and the "active medical principle" to exist only as imaginary departments of nature. Both imaginary and acceptable simply because the function of vital force is not understood.

The nature and function of vital force is not a difficult problem to comprehend. Every person in this room can comprehend this postponed problem with all that equal satisfaction and positive verification which supports the acceptance that the shape of the earth is spherical.

The key to this problem is found in the fact and recognition that vital force is not a one function of active principle, performing a variety of duties, but is a four distinct method of function of operative active vital principles, performing a variety of duties.

This distinction must be recognized, and this alleged fact may be easily verified.

And when we seek to determine the existing distinction of the four functions of alleged ultimate active vital properties, each performing and executing a function of life peculiar to itself we shall be rewarded with success, and will then be in possession of that key which unlocks the unsolved problems of centuries, as presented by the human organism in conditions of disease.

So small a factor as failing to determine that the shape of all planetary orbits were elliptical, rather than circular, as first presumed, postponed the solution of many astronomical problems for more than a century, while failing to recognize that vital force is an agency of nature manifested in four distinct life functions has ever been seriously detrimental to intellectual pursuits and scientific achievement.

Also, such failure, as previously stated, has occasioned the human mind to accept the existence of external agencies in the name of "active cause of disease" and "active medical principle."

We can start off with the undisputed fact that there is a vital force agency, but will facts of recognition enable us to distinguish four distinct ultimate active vital properties, each department executing a function peculiar to itself?

As students of biological science we must claim the right to use special terms to express special operative principles, and I will thus claim that privilege in the use of the words sensibility, instinct, sensation and contractility, as representing the four distinct vital properties, and next proceed to define what constitute the functions represented by such terms.

I shall apply the term sensibility to that life function which expresses intelligence. It is both a life function and a mind function, and is that function which relates us to the external world.

It superintends all the voluntary acts. It has the ability to originate ideas, to think, to experience joy, hope, grief, anger and exercise reason; also, experience a multitude of emotions.

Instinct is an involuntary life function but not a mind function, as is often represented. Instinct superintends the involuntary acts—superintends the construction and repair of the organic body

Sensibility superintends the supply of nutrient material, while instinct takes charge of the placing of such material for the purpose of organic growth.

Sensibility superintends voluntary acts.

Instinct superintends involuntary acts.

Instinct is the life property that takes charge of all material that is introduced within the human organism, using the nutrient and directing the method for expelling the foreign.

Instinct is a life property that pervades the whole organism, while sensibility is a life and mind property of the brain.

Instinct is a life property ever at work, while sensibility has alternate periods of rest and activity. Sleep is

a complete temporary suspenson of the function of sensibility.

Instinct is not intelligence. It is not a function that can reason. It may do things for the best interest of our organisms in its normal function or it may do the extreme opposite, in its abnormal function. In conditions of disease it is this life property which requires to be watched and guided.

It is the abnormal function of this life property that largely engages the attention of the physician in conditions of disease.

Instinct may correct some of the errors of sensibility. That is, a person may voluntarily swallow certain objectionable material, which instinct involuntarily expels by an act of emesis, and sensibility can to a limited degree indirectly guide the function of instinct.

With this partial definition of the distinction between the functions of the two vital properties mentioned, there is to be determined whether such distinctions really exist or, is this representation merely a flight of fancy and without practical importance to consider?

If such difference means anything it means there is a special duty delegated to each life property.

In the use of the term instinct to represent a special involuntary life function it is important that we do not use this term to represent both voluntary and involuntary life functions, as is the custom in all literature.

The dictionaries define instinct as both a voluntary and involuntary life function—innate intelligence of animals is called instinct. The voluntary act of the beaver in building his dam is called instinct, while, as a scientific fact, it is the instinct life function which constructs the beaver.

Biological science is not a crude department of nature that may be represented without special regard for well-defined terms. In fact, finer distinctions of operative principles are implied than with other departments of science.

We will next consider that life function called sensation. This is not a mind function, as is frequently represented, but a life function; and, while this term can represent correctly but one special life function, the same liberty has been taken with this word as with instinct.

It is used to represent two distinct life functions in its general application, and is so defined in the dictionaries.

Sensation is an ultimate life property, executing a different function from either of the two life properties already defined.

Sensibility relates us to the external world, while sensation is a life property that relates us to the contact world. It is a life function manifested from relations of contact.

Sensation is not a brain function or mind function, that may express emotions like the factors of sensibility. The factors of the function of sensation are represented in the words taste, smell, heat, cold, smarting, itching, weariness, hunger, thirst and pain of various degrees.

The total of the factors of sensation are innumerable; equally so as are ideas. Pain and ideas are factors of different life properties.

Sensation is a life function designed for the purpose of enabling both the sensibility and instinct to become aware of existing contact relations. The function sensation speaks its own peculiar language to both sensibility and instinct relative to existing contact relations that may require attention from either instinct or sensibility, for the purpose of self-preservation.

It is not possible to do justice to the mention of the function of sensation in this essay. My desire is to call attention to the difference of function of existing life properties of active principles.

Among the distinctions, even with the function of sensation, we are required to recognize the fact that some sensations may relate to both sensibility and instinct; some sensations may relate only to sensibility, while others may relate only to instinct.

Now, while it is true that sensations are produced by contact relations, there is something more that

is true. Sensibility, to a limited extent, can both develop and abolish certain sensations.

Also, mental and physical labor may develop certain sensations, all of which facts, however, do not infringe on that other fact—that sensations are largely produced by contact relations.

Sensation is a life function of great diversity of relation and great importance to recognize.

We will now take up the subject of that life property called contractility.

This is the animal strength property manifested by the muscles. It is the life property of motion. This life property is not primarily active in itself, but is used by other life properties.

The sensibility uses this life property to execute voluntary motion, while instinct uses this vital property for the exercise of involuntary acts. Thus we might say that contractility is a special life property of motion and strength used by both the sensibility and instinct.

With such association of application there is a very nice distinction of importance to recognize. The sensibility exercises voluntary contractility from an impulse of the will. The instinct exercises involuntary contractility as a sequence of an existing sensation that is produced by contact relations.

Thus we are able to a limited degree to harness up and use the involuntary life function as we may desire, by the causing of special sensations from contacts, and we use material medicine to make contacts to cause such special sensations.

I have partially defined the alleged functions of the four active vital properties as each exercising a function peculiar to itself. Now I ask, shall we ignore such self-evident functions as here represented and say they are of little or no value, and no part of the operative principles of biological science?

Can we determine the function of each ultimate life property and still claim that the function of vital force executes a mission not included in the aggregate of such functions?

Can you discover any life act not presented by one or more of the special life properties mentioned?

If not, we must accept that the function of vital force is solved, and thus manifested in the exercise of those four special divisions of life operations, susceptible of comprehension as life acts.

In other words, all that vital force executes is done in the name of those four special life functions.

There is another question to come up, as to whether there are any operative principles, any active principles in medical science different from the operative or active principles of biological science?

In other words, is the alleged "active cause of disease" and "active medical principle" a different operative principle from what has been represented in the functions, normal or abnormal, of the four active vital properties?

We shall soon get to this subject. It may be well, however, to distinguish that, while nature has provided no department entitled to the name of medical science, there is provided, however, that medical practice may be made operative from a basis of positive scientific principles. That is, in other words, we may practice medicine scientifically.

Provided we accept the operations of such functions, as here defined, it will be of interest to examine more or less into the methods of co-operation implied in the voluntary and involuntary activities of such life properties. Thus, I repeat, that sensibility superintends the voluntary, while instinct superintends the involuntary.

The voluntary is set in motion in response to the will, while the involuntary is set in motion in response to a sensation.

Thus, in the fact that we can cause sensations by making contacts, it then becomes true that we can harness up and use the involuntary vital force, to a limited extent, for the exercise of certain operations, as we may think best to have established in conditions of disease; and in this illustration I shall make application

of the operative principles to the disease problem.

It will first be important to recognize that each vital property may present its function, either as a normal or abnormal activity.

The sensibility may become insane. The instinct may construct malignant growth. Sensation may present persistent disagreeable feelings and irritability, and the contractility may be exercised with convulsive actions to the extent of exhaustion and death.

The involuntary organism when surrounded by conditions which produce normal sensations exercises physiological actions that maintain health.

When surrounded by causes which produce abnormal sensations there is exercised a pathological vital action that in itself constitutes active disease.

Instinct directs both physiological and pathological activities, as a sequence to a previous existing sensation, either normal or abnormal.

Thus it will be recognized that disease begins with an abnormal sensation. This constitutes an important fact. The cause of disease does not act—it has no active principle. Thus the phrase, "active cause of disease" is a misnomer. The cause is passive, but its presence causes abnormal sensation, to be succeeded by pathological vital action, which is active disease.

(To be Continued.)

RATIONAL TREATMENT OF PERTUSSIS.

BY FRANCIS T. B. FEST, M. D.,
PLANK ROAD, MICH.

With every disease its etiology shows us the way for its treatment. Therefore, it is necessary to recapulate the etiology of every disease for which we wish to outline the therapeutics.

Pertussis, or whooping cough, is a contagious disease, which manifests itself in spasmodic cough. Although some bacteriologists have found in the sputum bacilli, we are unable so far to determine their role, whether causing, accompanying or only accidental. It is a local disease of the larynx, acting upon the nerve supply, and causing spasms of this organ. The course of the disease shows three distinct phases—the catarrhal, paroyxsmal and declining.

From the Journal of the American Medical Association, August 17, 1895.

The first stage shows only symptoms of mild catarrh of the bronchi, nose or conjunctiva. Pathognostic for pertussis is only the excessive watery secretion from the affected regions. This phase lasts from two to seven weeks, with infants often a few days only.

The paroxysmal stage affirms the diagnosis by its characteristic "whoops." The expectoration is watery, sometimes bloody. In many cases vomiting follows the paroxysms by mechanical irritation. The vomiting in return can cause disorders of the digestive apparatus. The whoops at times occur as often as every half hour, and as thereby the cyanotic condition which accompanies the whoops occurs too frequently, they lead to asphyxial convulsion and even death.

In the respiratory apparatus the irritation causes in many instances capillary bronchitis and catarrhal pneumonia. After duration up to ten weeks the paroxysms are less severe, show themselves more rarely and the disease goes over into the declining stage. At this time the sequela or secondary lesions mainly demand our attention.

As we have seen, the disease is a local one. It primarily affects only the larynx; all other symptoms are secondary. The circumstance forms the basis of our treatment. The disease is local—ergo, we treat it locally; it is of neurotic character—ergo, we give a drug that acts upon the nerves.

With contagious local diseases rational local treatment consists in destruction of the contagion by antiseptics—the most powerful is the most rational. Therefore, every local application of any antiseptic improves to a certain degree pertussis. If we cast a glance at the literature, nearly everything was tried—phenol, boracic acid, thymol, resorcin, naphthalin, creasote, benzol, bromoform,

mercurials, etc., but they all more or less are of irritating action upon the surface they are brought in contact with, or if not irritating, their action is so mild that their therapeutic effect is as mild, too. The experience of the last few years proved the superiority of peroxide of hydrogen over all other antiseptics, except when we have to handle metallic instruments. An exception which interferes not in pertussis.

In pertussis I used the peroxide with great success for local applications in this way: The child's head is leaned backward and held firmly, another person pulls out and depresses the tongue to bring the glottis into good view; then, by means of a bulb atomizer, consisting of glass and rubber only, I direct a spray of peroxide of hydrogen solution toward the larynx, and if possible, through the glottis. This is much facilitated if the child is old enough to pronounce the sound a.

I always prefer the 30-volume peroxide of hydrogen (hydrozone), and dilute it in the following manner—hydrozone, one part; distilled water, ten parts; glycerine, one and one-half parts.

If the parents are docile they can be instructed to repeat the application twice or thrice a day. If the physician has a chance to apply it himself, he does well to make the solution fresh every time. At all events, it should be made fresh every other day, on account of this mixture being unstable.

Of all drugs only one has a really aborting influence upon pertussis, the old reliable, often-abolished and always-restored belladonna. The only secret of its right administration is the circumstance that we have to give such doses to get the belladonna action, the flushes (Jacobi), otherwise the administration is without value.

A child of 2 years requires six drops of the tincture three times a day; with the age the dose has to be increased to the proportion of 1.00 as a maximum single dose for an adult (gtt. xxv).

The root, the extractum alcoholicum fluidum, can be given to infants of six to eight months in doses of 0.01 t. i. d.; children of 3 to 4 years require of the same 0.3. Atropin may take the place of belladonna, beginning in a child of 2 years with 0.00065 t. i. d. and increase proportionately.

All complications must be abated in time, else our patient will be emaciated. If vomiting occurs at the paroxysms give menthol. If there be gastritis and catarrh of the bowels, give calomel, bismuth or, still better, glycozone. Often we meet gastralgia; then I prescribe for a child over 2 years:

R—Belladonna, tinct., 2.00.
Mentholis, 2.50.
Spir. frumenti, 10.00.
Glycerin, 20.00.

M. D. S. Teaspoonful every two hours.

Glycozone administered in the proportion of two teaspoonfuls, diluted in a wineglassful of water, gave me the most gratifying results in acute cases.

Are the paroxysms severe, we can easily control the spasms by an application of cocaine to the larynx.

For the general treatment we shall advise fresh air, good nourishment, tonics and inhalations of ozone. With such treatment the disease can be cut off to a period of only a few weeks.

A PRACTICAL STUDY OF THE BLOOD AND THE CIRCULATION, WITH A HISTORICAL REVIEW OF THE SUBJECT AND ITS BRIEF CONSIDERATION FROM THE STANDPOINT OF ITS CLINICAL COMPOSITION, ANATOMICAL STRUCTURE, AND PHYSIOLOGY; INCLUDING CLINICAL STUDIES, AND EXPERIMENTAL RESEARCH ON THE LOWER ANIMAL.

BY THOMAS H. MANLEY, M. D., NEW YORK.

Continued from last number.

PART IV.

THE INFLUENCE OF THE ARTERIES IN MOVING THE BLOOD CURRENT.

To anyone conversant with the

many singular features which the living arteries present, the role which they play in propelling the blood, their tremendous energy, and yet their docile submission to the intervention of art, in accident or disease, any scientific inquiry bearing on their vital character becomes a subject of liveliest interest.

The arteries are highly endowed with remarkable and various characteristics, both in structure and function, which have engaged the serious study of the most eminent scientists of every age, though, for want of instruments of precision, no substantial advances were made in our knowledge of their minute anatomy until within the past two centuries.

In physical conformation the arterial tree is nothing more than a series of tubes, running into infinitesimal ramifications, a vast and almost endless number of conduits, extending in every direction; the blood moving in them, in obedience to the same laws as apply to hydraulics; superadded to which is that influence which imparts to them their vital properties.

Anatomically, they are made up of elastic substance, invested externally by areolar tissues and internally by endothelia; nourished on their periphery by the vaso-vasorum, and animated by the vaso-motor nerves from the sympathetic system.

In the aortic root, yellow, elastic, fibrous tissue is intimately interwoven with the contractile fibres.

Anatomists are not fully agreed whether their general contractile investment should be regarded as muscular tissue or rather a species of the fibrous variety.

Modern histologists designate it the "muscularis;" but in function its resemblance to fibrous connective tissue is much greater than to muscular. Nor will the microscope definitely settle the question; because, the protoplasmic corpuscles of these tissues possess such similar characters and arrangement that their differentiation must be rather decided on arbitrary premises than irrefutable proof. Fortunately, from a practical standpoint it is quite immaterial which structure predominates.

The right ventricle sends a jet of blood into the pulmonary artery, the tricuspid valve closes and now the vessel contracts on its distended contents and delivers them to the pulmonary capillaries. Now, what precise part the arteries play from this point through those organs, such active centres of profound chemical and vital changes as the lungs, is an interesting problem. But when we advance a step further to the left ventricle, where the systemic circulation begins, the controversy opens. Volumes have been written on this phase of the subject, and the greatest minds have been concentrated in trying to solve the problem. Magendie, the unrivaled French physiologist, denied that the arteries served as anything more than simple tubes to convey the blood, alleging that the entire vascular circuit was maintained by the heart alone. His eminent contemporary, Poisseulle, and others since, have shared the same view. In support of his position Magendie made many experiments on the living animals and devised a mechanical contrivance to demonstrate his position. It has been the opinion of many, however, that this physiologist inferred too much from the supposed analogy between physical phenomena and vital properties, and later investigators have quite conclusively proven that not a few of his deductions rested on fallacious conclusions; that he sometimes seemed to have lost sight of the fact that all vital actions are regulated by laws, delicately and finely adjusted. His experiments were made on terrorized animals before the discovery of anesthesia; besides, unlike Hunter, or Laennec or Bichat, he was not a practitioner, and hence was not in a position to confirm by observation on the human body those theories, the offspring of experimentation. Holland questions the possibility of the heart extending its energy through the four series of capillaries, as is the case in the liver, before the blood reaches the cava. Barry believed that the venous circulation depended entirely on the respiration, and Bichat

looked upon the capillaries as those agents specially concerned in moving the blood. Others seemed to have looked upon the corpuscles of the blood itself as elements imparting to the vessels and the economy renewed energy, and effecting such changes as render the continuous motion of the blood possible. I have myself made no effort to determine by experimentation yet just what share the larger arteries take in the circulation and, therefore, consider it unnecessary to refer to the latest views of our modern physiologists on this subject; and will be content with making a few observations on the practical side of it.

THE RESISTANCE OF THE ARTERIES.

Many complex and singular problems confront us when we come to calculate the approximate resistance of the arteries, and here we soon discover that the laws of physical science have but a limited application. As an illustration, let us compare the arteries with a system of pipes conveying water through a large building. Here, we will observe, that at the source, at the main, but one tube, of large dimensions, is employed, and from this the stream is broken, perhaps, in a hundred or more places, for distribution; the water rising, in proportion to pressure, atmospheric, hydrostatic or such as may be added as an auxiliary through an artificial lift.

Now we will notice that in those tubes the farther removed from the source and the higher elevated the less the pressure; in the smaller ones with the same degree of pressure the greater will be the velocity of the current. In the systemic arteries we may note the contrast; with those arteries far removed from the heart, as the palmar or plantar-arch, or ramifications of the cerebral arteries, in the substance of the brain. From a practical standpoint we know well that arterial hemorrhage in any of those three-named situations is more energetic and more difficult to arrest than in the mammary vessels on the left side immediately over the heart, or the axillary, in close proximity. And, further, instead of the blood current gathering accelerated motion as it enters the arterioles and capillaries, it markedly slackens, as in the large vessels it is a rushing torrent, while in the capillaries its movements are comparatively gradual and may be easily studied. A puncture or fissue of a metallic tube no amount of time will close in; on the contrary, will rather enlarge it. In many of the intermediate arteries, when we encounter a small laceration or leak, instead of endeavoring to seal the opening we boldly cut the vessel in two, thereby securing an immediate arrest of the bleeding.

There are various phenomena associated with the arteries, which would be quite inexplicable if our sources of knowledge were limited to the physical science, and if we were unable to invoke nature. One of the most remarkable is arterial pressure. According to the researches of Hales and Arnott this is equal to about six pounds to the square inch. It is, therefore, evident that if the doctrine of Pouisseulle and Magendie holds, that the tension in all the arteries is uniform, basing our calculation on Arnott's figures, we would find the pressure in the radial artery equal to about sixty pounds.

Efforts have been made to determine the degree of resistance of the arterial wave by placing the weights on the foot or ankle of a leg crossed over the knee of the opposite limb. Thus, with fifty to one hundred pounds resting on the instep, the foot was seen to rise and fall with each pulsation of the popliteal artery, in an effort, it has been supposed, by the vessel to overcome the curve produced by the flexed position of the limb.

Some writers have called into question the efficacy of this test as a measure of the tensive power of the artery.

Sir Charles Bell believed that the motion of the foot was produced by the contraction of the digital arteries. But how could we have this contraction if the blood supply was

dammed back by the leverage brought to bear on the popliteal artery?

Another physiological writer denied that this test proved anything, inasmuch as "the same artery with such apparent force could be closed by the pressure of a hair, or the weight of a few pounds over the vessel in the groin." He must certainly have spoken under a misapprehension or without a practical knowledge of dealing with the living vessel, or he should know that the femoral current may be arrested by various surgical expedients, which entail no continuous pressure of any kind whatever; and, moreover, when he says that the living femoral artery may be closed in the groin by a few pounds weight he certainly is in error.

"But the mere pressure of the finger will stop popliteal throb," adds another. Decidedly, when there are one or two hundred pounds weight behind it. The force necessary to arrest the femoral current is certainly very great; so great that no one with the whole weight of his body thrown on it through his arms can maintain it for more than a few moments before he is exhausted, nor can we, with the tourniquet or rubber bandage, hold it back without putting such a strain on the constrictor as will wholly arrest every description of circulation, which if continued more than a few moments, may threaten the vitality of the whole limb. In view of these facts comes the extraordinary action of this powerful vessel, with its enormous projecting power. in the event of such trauma or disease as will produce a breach in its walls or wholly divide them. Imagine the projecting power of a vessel that will lift a bone out of its socket!

At the time of writing a middle-aged man is under my care with aneurism of the first part of the left subclavian-artery. The walls of the aneurism are very thick and the impulse great; so great, indeed, that it raises the articular end of the clavicle up fully half an inch from its meniscus with each throb. Observing the great intensity of impact in this case, and without a knowledge of the vital and salutary action of the large trunk, from which this vascular diverticulum springs, one can scarcely conceive how any description of ligature could securely close the lumen of the vessel; how it could maintain its grip without immediately beng snapped off or cut through. No wonder, then, that for ages, until the time of Ambrose Pare no one ever, for a moment, thought of the ligation of an artery in continuity, or after injury, or in disease. Under other circumstances, we may observe where the brachial artery is torn in two, it still preserves all its propulsive force, with its gaping orifice open, yet it fails to bleed. Pathologists will tell us that this provisional hemostasis in the economy succeeds in consequence of coagulation of the blood, lessened heart action, retraction of the vessel, etc.; nevertheless, though these theories are ingeniously conceived they do not give us any rational conception of the modus operandi other than from a mechanical standpoint.

With this diversion from our subject to a side, later to be considered under "Hemostasis," we will revert back to arterial tension in health.

In order to determine how long contraction continued in the arteries after death Hunter took the navel of a new-born child and tied it at both ends.

Twelve hours later he divided it, when he saw the open, gaping imbibical-artery slowly contract and finally close. He repeated the same, with like results, after twenty-four and thirty-six hours. After forty-eight hours, on division, he found that the artery had parted with its vitality, remained open and patulous, giving free issue to its contained blood. Here we have a demonstration of the active contractile properties of the artery long after it was wholly disconnected from the body, its vitality only preserved by its contained blood.

In response to what law or vital impulse does the artery force the blood-jet onward? Is it an independent action, or one intimately associated with other functions of other

organs? If we regard the arteries as nothing more than simple tubular prolongations of the central organ of the circulation, concerned only in the completion of the work here commenced, then the problem is simple of solution.

And this view of the subject, stripped of all technicalities and complexities incident to intricate investigation, is by no means without a rational basis, either from the side of structure or function. (a) Because both the heart and arteries are supplied by the vaso-motor system almost exclusively; (b) the same vitalizing fluid flows through both; (c) the heart and arteries are inclosed in an atypical muscular envelope; (d) the contractions of both are partly synchronous. In embryonic life, although their development is independent in the progress of growth they both become essentially one; much the same as the epiphysis and diaphysis of a bone-shaft in the adult. Briefly summarized, then, it may be affirmed that the arterial system is an auxiliary to the heart, and not only delivers the blood to the capillaries, but also, by its own powerful contractions, aids in its propulsion. It may be further added that the arteries are endowed with special vital characteristics, no more active in forcing on the circulation than in promptly suppressing it, in the event of danger to life from hemorrhage.

(To be Continued.)

LITERATURE.

Magendie, Lecons de Physiologie; tom. 2, P. 817.

Pouisselle, J. Des Arteries de I'Homme.

Milligin, D.; Comp. Phys.; P. 129.

Hunter, J.; On the Blood, P. 212.

Dalton, J.; Physiol., Ed. 3, P. 97.

Lancet, Vol. 7, P. 317.

Jurin, M., Movements du Sang., P. 240.

Barry, J.; Force de Circulation, P. 149.

Arnott, Elements of Physics or Nat. Philosophy, P. 49.

Journal de Physiologie, Vol. 8, P. 317 and 318.

Landois, Transfus des Brutes.

The Times and Register.

A Weekly Journal of Medicine and Surgery.

FRANK S. PARSONS, M. D.,
EDITOR AND MANAGER.

Subscription Price, - - - $1.00 Per Year.

Send money by bank check, postal, money or express order, payable to The Medical Publishing Co.

EDITORIAL STAFF.

W. H. PANCOAST, M. D., Philadelphia, Pa.
T. H. MANLEY, M. D., New York, N. Y.
E. W. BING, M. D., Chester, Pa.
S. H. MONELL, M. D., New York, N. Y.
J. R. CLAUSEN, A. M., M. D., Philadelphia, Pa.
LOUIS LEWIS, M. R. C. S., (Eng.) Phila., Pa.
J. A. TENNEY, M. D., Boston, Mass.
E. B. SANGREE, A. M., M. D., Philadelphia, Pa.
HENRY BURCHARD, M. D., D. D. S., Philadelphia, Pa.
F. E. CHANDLER, M. D., Boston Mass.
A. D. DAVIDOW, M. D., New York.

PUBLISHED BY

THE MEDICAL PUBLISHING CO.

Communications are invited from all parts of the world. Original articles are only accepted when sen solely to this Journal. Abstracts, clinical lectures, or memoranda, prescriptions, news and items of interest to the medical profession are earnestly solicited.

Address all communications to

Room 718, Betz Building.

Entered at the Philadelphia Post Office as second-class mail matter.

PHILADELPHIA, OCTOBER 12, 1895.

PROF. LOUIS PASTEUR.

The recent death of this eminent chemist removes from the world one of its greatest scientists and benefactors. His life even marks an epoch in the history of medicine.

His actual discoveries in the study of hydrophobia, anthrax and the silkworm disease, and in the fermentation of beer and wine, were of great practical value, and each had the scientific merit that, while it taught the specific nature of the evils attacked, it also made clear the way of prevention. But these studies and the subjects to which they gave rise,

the clue they gave to certain mysteries of nature did more than had been done in very many past centuries toward opening the way to wonderful advances in the study of medicine.

From the beginning of thought in the healing art there has been kept before the human intelligence the persistent problem, "What is disease?" And this was not an idle inquiry, because the radical and effective remedy for an evil flows from an intimate and precise knowledge of its nature, as is evident in Pasteur's method for preventing in the body of any victim the development of the results of the hydrophobia poison. The early medical instinct saw the importance of the problem, but until our own time there were never any but very meagre answers.

Upon that important theme all the labors of Pasteur directly bore, and if they have been as fertile in the labors of others that were inspired by his endeavors as in his own, a great part of all the glory is yet his. To-day the nature of all the zymotic diseases is comparatively clear. Of phthisis, cholera, diphtheria, typhus, typhoid, intermittent fever the plague and so on, we know that all their symptoms and the fatal results, when they are fatal, are due to the irritation and exhaustion consequent upon the development in our bodies when we are in a receptive condition, of myriads of micro-organisms that grow and flourish in our tissues as parasites. We also know the different organisms which produce certain diseases, and we have such indications of how to deal with them as puts the healing art upon a sure and scientific basis as to these maladies.

Besides the advantage to humanity that has thus come out of the labors of this simple Frenchman, how the achievements and glories of all the alleged great men dwindle into worthlessness!

Such lives bring us the example pictured in Longfellow's sweet lines:

"Lives of great men all remind us,
We may make our lives sublime;
And departing leave behind us,
Footprints in the sands of time."

THE EFFECT OF ONIONS ON DIURESIS AND PERSPIRATION IN HEALTHY PERSONS.

Stawski has studied this subject in the clinic of Professor Pasternacki, by experimenting on eight healthy persons from 22 to 38 years of age (Inaugural Dissertation, St. Petersburg, 1895; Sojous' Universal Med. Jour., July, 1895). Each experiment lasted six days, and for three days previously the person was under control. The amount administered was from 60 to 100 grammes (1 3-4 to 3 1-4 ounces). Raw onions, to the amount of 100 grammes (3 1-4 ounces), taken with a mixed diet, did not show any distinct diuretic properties, and did not affect perspiration. The weight of the body in five out of the eight cases increased during the experiments as well as afterwards. The quantity of excrements increased, this increase continuing even after the experiments in six out of the eight cases. Raw onions increase the appetite, produce vigor, and afterwards cause temporary inclination to somnolence. They also cause thirst and eructation, increase peristalsis, soften excrement, and favor its easy evacuation.

Electro-Therapeutics.

IN CHARGE OF

DR. S. H. MONELL, New York.

ELECTROLYSIS BY A CURRENT CONTROLLER FOR THE REDUCTION OF SPURS OF THE NASAL SEPTUM.*

BY W. E. CASSELBERRY, M. D.
From the N. Y. Med. Journal.

Continued from September 28th.

To Type I may be assigned four other cases of the entire number treated.

Case II of this type.—Mr. A. G. M. complained of inability to breathe through the right side; the cartilaginous septum was deflected to the right and, in addition, situated toward the base of the convexity was an excrescence which projected suf-

ficiently forward to approach the partially collapsed ala and so close the nostril. Electrolysis was selected because of the nervous disposition of the patient, he having so little self-control that the surgical method might have involved unusual difficulties. The reduction of the excrescence was effected in three treatments at intervals of about three weeks, the process being unusually tedious for the size of the spur because only six-minute applications, with from ten to twenty-five milliamperes, were employed, unusual care being necessary on account of the adjoining deviation of the septum, not to produce a perforation. It has been wisely alleged as a disadvantage that perforation is especially liable to result from electrolysis; but this case satisfied me that it could be avoided by proper care in any case in which it would be avoidable by the surgical method.

The result was satisfactory; by the removal of the excrescence without interference with the deflection, enough space was gained for comfortable respiration.

Case III of Type I was quite an elderly gentleman, who was under treatment for nasal polypi. A cartilaginous excrescence, which prevented the ready transmission of light and the passage of instruments to the seat of polyp growth, was effectively reduced by electrolysis. His age and somewhat feeble condition led to the adoption of this substitute for the surgical method in his case. His was the only one of the ten cases in which there was any noticeable reaction after the treatment. His temperature rose slightly, he complained of heat pain and tenderness of the nose, and of a sense of malaise and headache for a day or so.

Case IV of Type I was a small cartilaginous excrescence with which I might not have deemed it necessary to interfere by the surgical method, yet the patient is much improved by its reduction. The only noteworthy feature is that the slough did not separate as a whole, but seemed to liquefy and be in part discharged and in part absorbed, without complete destruction of the mucous membrane, which has therefore been reproduced more perfectly than is usual after the cutting operation. This is an advantage, as the tendency to incrustation so frequently observed after the surgical method due to the poor quality of reproduced mucosa will be avoided. It is an advantage, however, which does not invariably follow electrolysis, since if the slough produced be large it will separate as a whole, with corresponding complete destruction of the surface mucosa.

Case V of Type I presented no features not already noted in connection with the others.

TYPE II. MIXED CARTILAGINOUS AND BONY SPURS.

Case VI.—Mr. M. J. H., aged 25 years, has lived in Colorado for two years on account of suspected incipient pulmonary tuberculosis, but has now resided in Chicago again for a year and a half. Maternal grandfather, mother, and sister died of tuberculosis. The physical signs and general condition indicate tuberculosis in a comparatively quiescent or arrested state. He now complains especially of nasal obstruction and consequent irritation of the throat, which is due to hypertrophic rhinitis aggravated by a septal spur. This excrescence is of the kind which commences anteriorly and runs upward and backward, following the sutural line of the vomer and cartilaginous plate of the septum, gathering volume and thickness and terminating opposite the middle turbinal, into whch body its point presses, reaching at this plane quite across the nasal space.

March 1.—The same needles as were used in Case I were inserted into the projecting point of this excrescence. They met bone and could not be inserted as deeply as desired. The controller was adjusted gradually as in Case I to a maximum electromotive force of thirteen volts, at which time the current registered from twenty to thirty-five milliamperes, the action being maintained for seven minutes. The patient is uncomplaining, and he regarded the pain as trivial. No hemorrhage.

6th.—He suffered no discomfort after the treatment. The excrescence point is soft and smaller.

19th.—The spearlike point of the excrescence having been destroyed, a second application was made in like manner to the part of the ridge next adjoining anteriorly.

April 30.—The final result is fairly satisfactory, the spur being very much reduced in prominence, but not wholly removed. Both cartilage and bone entered into its composition, and the reduction in volume was probably commensurate with the proportion of cartilage contained in it.

Doubtless a flatter surface might have been made by the surgical method, but on account of the latent tuberculous state of this patient one would not have wished to risk either the shock or possible hemorrhage of the surgical method.

Case VII.—Mr. H. had a spur similar in location and composition to the last described; only the anterior lower part of it, however, yielded to electroylsis. The larger part of it proved to be of bone, which was unaffected by the treatment. Slight improvement only.

In one other case of this type the treatment is not yet completed, but the indications point toward a partial reduction only.

TYPE III. BONY SPURS.

Case IX.—Mr. E. R., aged 19 years, has been under treatment for hypertrophic rhinitis, adenoid vegetations, and hypertrophy of the tonsils, which are now remedied. He has also a septal spur of the kind which commences anteriorly and runs upward and backward, terminating opposite and projecting into the middle meatus of the right side.

March 20.—Electrolysis applied to the spur—eleven volts, twenty milliamperes, for four minutes—when the patient so nearly fainted that it was necessary to discontine the treatment. The needles would not penetrate thoroughly into the spur, the bone seemingly being of ivory-like hardness.

April 27.—The spur is practically unchanged, and electrolysis again attempted, the method with two lamps in the circuit for the more gradual application of the current being selected. This treatment was also a failure, for the needles could not be made to penetrate adequately, and besides the patient nearly fainted after three minutes of a current of only eight volts and ten milliamperes. A subsequent effort to insert steel needles into this spur resulted in failure.

Case X of Type III was a similar bony spur in which, failing to get a proper insertion of the needles, the process by electrolysis was abandoned and the surgical method substituted.

Conclusions.—1. As demonstrated by the cases reported under Type I, strictly cartilaginous spurs can be thoroughly removed by electrolysis —one, two, or at most three operative sittings being required. It is more tedious and less brilliant than the surgical method, but is not accompanied by any liability to immediate hemorrhage and by only a remote possibility of secondary hemorrhage. It is not to be indorsed as a universal substitute for the surgical method in even this limited class; but the number of individual cases, both in this type and in Type II, for which it is applicable is large, and with the efficiency, convenience, and compactness of the McIntosh current controller which adapts the Edison electric circuit to its use, together with properly constructed irido-platinum needles, I considered it a valuable addition to our resources.

2. As demonstrated by the cases reported under Type II, it will not thoroughly remove spurs which belong to that large class of mixed cartilaginous and bony substance; but it will reduce them in size, the amount of reduction being commensurate with the proportion of cartilage of which they are composed. The majority of such cases would therefore better be treated surgically, as being the more thorough method; but instances will arise in which the surgical method being inclined or being for some reason inexpedient, benefit may accrue from the use of electrolysis.

3. As demonstrated by the cases reported under Type III, spurs composed wholly or largely of hard bone cannot be successfully treated by electrolysis, for the reason that needles cannot be caused to penetrate preperly, and further, it is doubtful if the process is adequate, even if the needles should penetrate, to the resolution of hard and dense bone.

4. Spur or excrescence, and not deviation of the septum, is the subject of this paper. Electrolysis is powerless to correct deviated septa of any form.

Surgery.

IN CHARGE OF

DR. T. H. MANLEY, New York.

PICRIC ACID FOR BURNS.

French surgeons have recently been using a solution of picric acid for the first treatment of burns; and it has been found that the pain which is caused by the burning of the skin can be almost immediately alleviated, or altogether removed, by painting the affected surface with a strong solution of picric acid. It is stated that the remedy has proved to be quite harmless, and that the yellow stains, which are caused by its application, can be easily washed out with boric acid. The general verdict, of those who have employed the remedy, is that it has greatly lessened suffering, and has, therefore, probably saved life, while it would appear that even severe cases thus treated have recovered more speedily and completely than would have been the case under other forms of treatment. It would, therefore, be well, presuming that experience of the remedy in this country gives identical results, if the medical officers of factories or workshops, where accidents like burning or scalding are common occurrences, would direct that solutions of the acid should be kept at hand, and explain the method of its application to the workers.—Med. Times and Hosp. Gaz.

THE SURGICAL TREATMENT OF MENINGITIS.

Mannotti (Il Policlinico, August 1, 1895), experimenting on dogs with regard to the above subject, concludes that after weak subdural injections of sublimate solution (1 in 4000) tuberculous meningitis may not only be alleviated, but completely cured. Moreover, the involution of meningeal tuberculosis may be verified even if treatment be carried out at an advanced stage of the disease, and results in the development of more or less firm adhesions between the dura and the pia mater. The mechanism determining involution seems in many points identical with that observed in peritoneal tuberculosis. The superficial underlying cerebral cortex appears to undergo slight atrophy, but the experiments are not as yet sufficiently prolonged to say what the ultimate condition of the cortex will be. The sublimate solution apparently does not act merely as an antiseptic, but probably by setting up inflammatory reaction. In acute suppurative meningitis the injections seemed of no advantage. About one or two grammes of warm sublimate solution were used at each injection.

ANESTHESIA.

Anesthesia must be of the shortest possible duration. The administration should never be commenced until all other preparations have been completed, and the surgeon is ready to proceed with the operation. The practice so common in hospitals of anesthetizing one patient while operation is transpiring upon another and sustaining the anesthesia until the surgeon be ready to proceed, is reprehensible in the highest degree. It amounts to culpable negligence, and the surgeon authorizing such an act should be held strictly accountable for any untoward results to the patient brought about by such malpractice.

Whenever possible the patient should be spared the sight of the immediate preparations for operation and any unnecessary display of instruments.

Never attempt to hasten anesthesia by the violent subjugation of the patient. In beginning the administration, give the patient time to become accustomed to the vapor, and to acquire confidence. A little time and patience exercised at the outset will prove a saving of time and trouble in securing the desired effects, and, invariably, will obtain a much more satisfactory anesthesia, with far less shock and harmful after effects than follow that brutal, cowardly and unjustifiable method of forcing the ether by piling all available individuals upon the prostrate body of the frightened, struggling victim, and crushing him down until he be choked into insensibility. — From Med. and Surg. Reporter, Aug. 14, 185.

MAMMARY CARCINOMA.

W. L. Rodman (Medical News), concludes that mammary carcinoma operated before infection of the axillary glands should yield 50 per cent. of cures, and that even when these glands are infected if they together with the supra-clavicular be removed the cures will reach 11 per cent. Thorough removal of all axillary glands and fat is advised in all cases. The mortality of the complete operation, the author thinks, ought not be over two or three per cent. in the hands of average operators. Statistics gathered years ago upon this subect are regarded as valueless. Not all operators are so sanguine as Dr. Rodman, but there can be no question but that the complete method of operating gives the patient a much better chance of permanent recovery than the older methods.

Medicine.

IN CHARGE OF
DR. E. W. BING, Chester, Pa.

PAIN IN CHRONIC AORTITIS.

Chronic aortitis is of frequent recurrence, but often overlooked; by reason of its insidious character its phenomena are rarely referred to the true cause.

When the degeneration of the coats of the vessel has extended to the coronary arteries the diagnosis is easier. In the commencement the symptom of pain is not prominent, but generally there is a sense of oppression and precordical weight noticed, particularly after exertion. Later on there is true retro-sternal pain of a constrictive sensation, which attains its maximum in the form of angina. Then the probability of aortitis should be considered. Sudden death from rupture of the artery may occur without the patient having complained of any pain in the cardiac region. It is frequently of short duration, and exertion may bring on a fatal result at once; but in any case, it brings on paroxysms of suffocation. The symptom of anguish, with the integrity of the respiratory function so strongly marked in angina pectoris, is one of the characteristics of the pain of chronic aortitis.

It is an affection which should be always looked for when the above symptoms are present. The physical signs show dullness at the level of the second intercostal interspace, to the right of the sternum, showing tranverse enlargement, and the elevation of the right sub-clavicular region showing the longitudinal increase of the aorta. These two signs are pathognomonic. The alteration of the valve sounds is of secondary importance.—La France Medicale.

TREATMENT OF STOMATITIS FROM MERCURY.

During prefers chromic acid in 5 to 10 per cent. solution above all the other means used in this disorder. The patient must be careful to thoroughly cleanse the mouth after using this and also must use washes of alum or chlorate of potash. If salivation is profuse, he should drink plenty of milk and take sudorifics. This treatment is effectual even in severe cases. The solution of chromic acid may also be used as a prophylactic, while its staining qualities allow it to show up the minute ulcerations by coloring them yellow.—Le Courrier Medicale.

TRANSLATIONS FROM

Foreign Exchanges

BY DRS. CHANDLER AND DAVIDOW.

PERFORATING TYPHOID ULCER; PERITONITIS, OPERATION, RECOVERY.

Robert Abbe (Wiener Klin. Rundschau) reports a case of typhoid fever where in the third week all symptoms of perforation made their appearance.

Two and one-half days later Abbe was called, and found heart's action and respiration increased; pulse, 140, and temperature, 40 degrees C. The abdomen was swollen and gave on percussion a dull area from the hypogastrium toward the right Ponport's ligament.

After incision in the median line the coils of intestine appeared dull red and stuck together. The true pelvis and deeper parts of the abdomen contained nearly a litre of highly purulent, foetid fluid, which was drawn off. Irrigation with a warm 1.20,000 sublimate solution was then resorted to, and this followed by one of simple warm water. In the lower ilium were many oval, thick spots, the infiltrated Peyer's patches, one of which showed a gangrenous perforation of about one-quarter inch in diameter.

This was closed with interrupted silk sutures and two layers of continuous sutures over these.

Abdomen and pelvis tomponed with iodoform gauze, the wound left open and stimulants given per rectum. The patient passed the night well and had a stronger pulse next morning. Forty-eight hours after the operation, as the patient was feeling well, the tampon was replaced by a looser one, and a dose of calomel given. There was now a movement of the bowels, some fluid fecal matter escaping, also through the wound. This condition lasted some two weeks, then ceased, and the abdominal wound closed rapidly by granulation.

Perforations from typhoid ulcers have as yet been very seldom treated surgically through fear of the exhausted condition of the patient, but otherwise there is scarcely any distinction from perforation from other causes

In one form of perforations, namely, those from appendicitis, the symptoms and localization are identical.

Up to the present time only 17 similar cases have been reported, with but three recovering; one case of Van Hork's (1891), one on Netschagaw (1894) and the author's.

Dr. Adolph Hovas in the same journal gives the following treatment of bubos: The pus is emptied through an opening one cm. in length; then one-half c. c. of a 1 per cent. solution of nitrate of silver is injected into the abscess cavity. The dressing is changed every second day, the edges of the wound are washed with a 1.100 sublimate solution and a fresh injection of the silver nitrate is given. On the following day the pus formation ceases; in two to three days the livid coloration of the edges of the wound disappears. These edges and the subjacent connective tissue unite, the pain vanishes and the cure is complete in seven to eight days.

I see in the Memorabilien of August 26 a notice of Langier's article on three cases of gangrene from carbolic acid. In one instance a 1 per cent. solution of sodium carbolate and in the others a 2 per cent. solution of the acid itself was used in finger dressings, the treatment being continued for some time. From these and similar cases, L. deduces that a carbolized dressing, when its use is continued for some time, can exert a sufficiently powerful caustic action even in weak solutions to cause a partial or total gangrene, and that not only in children, but also adults, and even those who show no tendency to it. This fact is of importance not only for the physician, but also for the laity, who are apt to be more than reckless in the use of this medicament. A saturated solution of boric acid is to be preferred, as being much safer and quite as cheap.

On Monday last a Jewish baby, whose habitat was in the north end of the village of Boston, was taken with a desire to investigate the contents of a wash-tub which its mother had left standing on the floor for a few moments, while she went to the grocer's. Before baby could cry out there was a splash, and a neighbor going by the door a few moments later, saw a little pair of legs where the head ought to be. She rushed in, pulled it out and ran with it as fast as she could to a Dr. L. C. Gobron, who lived near-by, to have the child resuscitated, if possible.

Dr. Gobron, who is a regular physician, and a member of the Mass. Med. Society, absolutely refused to have anything to do with the case, and after the terrified woman had lost several valuable minutes in pleading with him, she took the child into the Suffolk Dispensary near-by, where Dr. Raddin worked over it for an hour without bringing it to. Dr. Gabron's reason for not treating the case was that the woman was a Jewess, and, as he had found that the Jews were "poor pay," he had made a rule never to treat another, and intended to live up to it.

When Dr. Raddin finally gave the case up the child's mother snatched her baby and rushed out into the street, crying: "You don't know somethings, anyhow; you do only 'speriment!"

Verily, "for this are we doctors."

C. Binz writes in the Deutsche mil.-oerzth. Zeitschr.: Quinine has been used for some time in the Indian army as a remedy for heat stroke, and with good results. The method of employment has heretofore caused difficulty, for its administration per os is often thwarted by the unconsciousness, the vomiting, cramps, etc., of the patient. On account of the slight solubility of the salts of quinia, we were obliged in its use hypodermically to inject either large quantities or acid solutions, which latter were much dreaded, because of their great painfulness, etc. Jerison succeeded a short time since in producing two easily soluble salts of quinia, one of which, the bimuriate, is recommended by Binz.

This salt comes in fine, colorless crystals; is easily soluble in less than its own weight of distilled water at ordinary temperatures.

The reaction of the light-yellow, syrupy solution is strongly acid, yet causes on injection into the subcutaneous connective tissue (not into the corium) neither pain nor inflammation.

The dose is 0.25 gm., and may, if necessary, be repeated several times.

Theoretically the action of quinine in heat-stroke may be explained on the supposition that it reduces the activity of the overheated hard-working cells.

In the Berliner Klin. Wocheuschr. of August 19, 1895, I find the following by Dr. Paul Manasse, of Strassburg:

"This specimen, gentlemen, was found in the stomach of a 44-year-old man, a joiner by trade, and much addicted to drink.

"In April of last year he came under treatment in our City Hospital on account of some stomach trouble. He complained of loss of appetite, pressure in the region of the stomach, headache, etc. His tongue was heavily coated, and there was a slight tremor in the hands. After one month's treatment for alcoholism he was discharged, improved.

"In December of last year he returned to the hospital, with indications of acute tuberculosis of the lungs and peritoneum. Death ensued on January 24. The autopsy proved our diagnosis, and we also found in the stomach a concretion which was close to an ulcer at the pyloric end. The concretion or stone is 10 cm. long, 5 cm. broad and 4 cm. thick. It is very light, weighs but 75 gm., has a pitchy appearance, a dark greenish color and is composed of superimposed layers of a substance whose chemical and physical properties show it to be shellac, which the patient had drunk to obtain the alcohol used in dissolving it."

CHANDLER.

Miscellany.

ERRATUM.

On page 266, October 5 issue, thirty-fourth line, "acardiac" should be used instead of "cardiac."

ATROPHY OF THE RIGHT KIDNEY ASSOCIATED WITH ENORMOUS COMPENSATORY HYPERTROPHY OF THE LEFT KIDNEY.

In exhibiting the specimen, Dr. Moir referred to a similar one which he had shown at the February meeting of the society. In the former case the right kidney was a flat, shrivelled cyst weighing about a drachm, and the right ureter was occluded in several places. The left kidney weighed 10 ounces, and its structure appeared merely hypertrophied. Both the liver and spleen were much enlarged. The patient died from the effects of lobar pneumonia. In the present case the patient died from exhaustion due to chronic diarrhea; both the spleen and liver were much enlarged, the latter being congested, fatty and friable. The right kidney weighed about a couple of drachms, and consisted of an encysted calculus, a small cyst containing fluid, and a collapsed cyst. The ureter was pervious throughout its course. The left kidney was very large, weighed 18 ounces, and showed marked evidence of congestion, fatty infiltration and degeneration. In both cases the patients had been native prisoners in the Presidency Jail, and their ages were respectively 32 and 26 years. In neither case was any evidence of the state of the kidneys observed during life.—Indian Medical Gazette, August, 1895.

THE TREATMENT OF EPISTAXIS.

In his clinical notes in the Clinical Journal, Mr. Shield gives some very instructive remarks upon epistaxis, which will be very useful to most people. He classifies the causes of nose-bleeding as follows: 1. Traumatism, either blows or the result of operation. 2. Ulceration of the mucous membrane, especially small ulcers of the septum. 3. New growths of the nose, especially fibrous polypus and malignant disease. 4. Symptomatic from such diseases as pneumonia, hepatic cirrhosis, cardiac disease, aneurism, fevers, etc. 5. Vicarious menstruation. Before speaking of its treatment, Mr. Shield gives this useful rule—always look upon epistaxis as a symptom, and endeavor to discover its cause. As regards treatment, his remarks may be summed up as follows: 1. If the epistaxis is salutary, leave it alone. Should the bleeding become dangerous and obstinate, proceed thus: Let the patient sit up before an open window—never lie down—so as to keep the head higher than the trunk; use ice locally and to the back of the neck. Immerse the lower extermities in hot water up to the knees, and give small doses of digitalis with ergot every three hours. 3. Speaking of local remedies, the best and only sensible method of using powerful astringents is by first detecting the bleeding spot by proper illumination through a speculum. This done, such remedies as turpentine, sulphate of iron, hazeline, etc., can be applied directly to the spot on an armed probe. 4. Should it be necessary to plug the nares, Cooper Rose's India rubber tampon should be used, or if this instrument is not attainable, lint can be used. In either case, always soak the plug in some antiseptic and cover with boracic acid, and always remove in twenty-four hours. There is a serious objection to the use of the plug, in that it may set up acute middle ear inflammation. 5. Lastly, do not be deceived into mistaking epistaxis for hematemesis, as not uncommonly blood from the nose may be swallowed during sleep and vomited afterwards.—Med. Times and Hosp. Gaz.

Prescriptions.

Infantile Indigestion.—After the babe has been nursed, give a teaspoonful of a mixture thus composed:

R. Pepsin.... .....gr. xv.
Lactic acid.... ....dr. ss.
Syrup of lemon.....oz. j.
Distilled water..oz. iij.—M.
—La Tribune Med.

Salicylic Acid Ointment.—Bourget recommends its use for gonorrheal and other forms of articular rheumatism:

R. Acidi salicylici..aa dr. ijss
Lanolin.... ..aa dr. ijss.
Olei terebinth...aa dr. ijss
Adipis.. .....oz. iij.

It is reported of this application that the acid is so thoroughly absorbed that it is afterwards found in the urine in large quantities, also that the local and general effects are most satisfactory.—Therapeutic Gazette.

Lemonade for Diabetic Patients.—The following lemonade may be prescribed for diabetic patients who suffer from thirst, and who beg for a drink with a sweet taste:

R. Acid citric..5 grammes (77 grains)
Glycerini puri..20 to 30 grammes (310 to 355 grains)
Aquæ puræ..1000 grammes (35½ ounces)

To be drunk in small quantities during the 24 hours.—Medical Chronicle.

Typhoid Fever.—Dr. H. Huchard, of Paris, recommends the administration of the following powders to secure intestinal antisepsis:

R. Benzonapthol.. ..dr. vjss.
Powdered charcoal..oz. ss.
Pancreatin.....grs. lxxx.
Mix and divide into 50 powders.
Sig: Take from four to six powders a day.

Dr. Burney Yeo's method of administering free Chlorine is useful. Chlorine is one of the most efficacious remedies in typhoid fever, and, as Murchison pointed out, it has a most beneficial influence upon the abdominal symptoms .The tongue promptly cleans, and the fetor of the evacuations disappears in 24 hours. The method of preparation is as follows: To a 12-ounce bottle add 30 grains powdered potassic chlorate and 40 minims of strong hydrochloric acid, cork the bottle until it becomes filled with chlorine gas, then add water slowly, shaking frequently; 24 to 36 grains of quinine and an ounce of syrup of orange peel may be added. One ounce of the mixture should be given to an adult every two, three or four hours, according to the severity of the case.—Med. Times and Hosp. Gaz.

TREATMENT OF BURNS.

Aristol.. ..... 5—10.0
Olive oil.... ..... 20.0
Vaseline,
Lanoline..... ....aa 40.0
—Haas.

GONORRHOEA.

Perchloride of mercury... 1 part
Antipyrin..... 100 parts
Distilled water..... 10,000 parts

The injection should be used four times a day and retained as long as possible. The addition of antipyrin prevents smarting.—Vatier.

CHORDEE.

R. Ex. opii..... gr. j.
Camphoræ..... gr. x.
Ol. theobrom..... q. s.
M. et ft. Suppository No. 1. Sig: Use at bedtime.
—Ricord.

GONORRHEOA, SECOND STAGE.

R. Hydrarg. chlor. corros. gr. 1-6
Acidi carbolici.... dr. iss
Zinci sulpho-carbolate gr. xxiv
Boro-glycerine (fifty per cent. sol.)..... oz. ij
Aquæ rosæ q. s. a. d. oz viij
M. Sig: Use as injection after urinating.
—White.

Women affected with metritis or displacements often suffer with dry cough without any disease of the respiratory organs.—Pozzi.

INCONTINENCE OF URINE.

R. Sodii benzoatis,
Sodii salicylatis..aa gr. xx.
Fld. ext. belladonnæ gtt. ij
Aquæ cinnamoni....oz iv.
M. Sig: A teaspoonful four or five five times daily.
—White.

TRICOPHYTOSIS.

Chrysarobin..... gm. 10 to 25
Salicylic acid..... gm. 5
Ointment of styrax..... gm. 5
Ichthyol..... gm. 5
Simple ointment..... gm. 5
—Du castle.
—N. Y. Med. Record.